Remarks

Claims 3, 5, 7, 8, 9, and 19-28 remain pending in this application and are presented for the Examiner's review and consideration. No claims have been canceled. Claims 3, 5, 7, 8, 9, 19, 20, 21, 24, 25, and 26 have been amended. No new claims have been added. Applicant believes the claim amendments, additions and remarks herein serve to clarify the present invention and are independent of any patentability. No new matter has been added.

35 U.S.C. §101 Rejections

Claims 8, 9, and 14 were rejected under 35 U.S.C. §101 as directed to non-statutory subject matter. Accordingly, Applicant has amended claims 8, 9, and 15. In light of the foregoing, Applicant requests reconsideration and withdrawal of the Section 101 rejections.

35 U.S.C. §112 Rejections

Claims 13, 15, 20, 21, 23, 25, 26, and 28 rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as the invention. Accordingly, Applicant has amended claims 13, 15, 20, 21, 25, and 26, in a manner substantially consistent with the manner suggested by the Examiner. (There was no need to amend dependent claims 23 and 28 to overcome this rejection.) In light of the foregoing, Applicant requests reconsideration and withdrawal of the Section 112 rejections.

35 U.S.C. §103 Rejections

Claims 3, 5, 7-9, 13, 14, 18-20, 22-25, 27, and 28 were rejected under 35 U.S.C. §103 as being unpatentable over Gering (NPL Document "A System for Surgical Planning and Guidance using Image Fusion and Interventional MR") in view of Payne et al. (NPL Document "Distance Field Manipulation of Surface Models"). In response, Applicant respectfully submits that this rejection should be withdrawn.

Payne et al. describes a method of using distance fields to manipulate surfaces in a visualization model. However, Payne et al. fails to disclose reformatting 3D volume data of voxels corresponding to a surface so that the surface is moved to a common row of a slice. Payne et al. fails to disclose reformatting 3D volume data of voxels that are not on the surface so that their respective distances from

the surface remain the same before and after the reformatting. Gering merely describes a computerized surgical assistant that allows fusing of preoperative datasets and rendering them in an interactive 3D graphics environment. Therefore, neither Gering nor Payne *et al.*, alone or in combination, discloses the reformatting of the 3D volume data prior to volume rendering the 3D volume data. In particular, the cited art fails to disclose the newly added fourth and fifth steps of amended independent claim 19, to wit:

> "for each slice, reformatting the 3D volume data comprising the voxels that define the defined surface, such that the defined surface is moved to a common row of the slice;
> for each slice, reformatting the 3D volume data comprising the voxels that are outside the defined surface, such that the respective voxel distances from the moved defined surface subsequent to reformatting remain the same as the respective voxel distances from the defined surface prior to reformatting;"

Therefore, claim 19 should be allowed. Amended independent claims 8, 20, 24, and 25 have also been amended so as to now include language that corresponds to the language quoted hereinabove; therefore, claims 8, 20, 24, and 25 should also be allowed.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Applicant contends that not all the elements of amended independent claims 8, 19, 20, 24, and 25 are taught or suggested by Gering in view of Payne *et al.* Accordingly, Applicant respectfully submits that amended independent claims 8, 19, 20, 24, and 25 are patentable over the combination of Gering and Payne *et al.*

If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed.Cir.1988). Applicant submits that the rejected claims 3, 5, 7, 9, 13, 14, 18, 22, 23, 27, and 28 depend from one of the independent claims 8, 19, 20, 24, and 25. As previously explained, Applicant contends that amended independent claims 8, 19, 20, 24, and 25 are patentable over the combination of Gering and Payne *et al.* Therefore, based on at least their

dependencies, Applicant submits that the dependent claims 3, 5, 7, 9, 13, 14, 18, 22, 23, 27, and 28 are patentable as well at least for the same reasons.

Claims 15, 21, and 26 were rejected under 35 U.S.C. §103 as being unpatentable over Gering (NPL Document "A System for Surgical Planning and Guidance using Image Fusion and Interventional MR") in view of Payne *et al.* (NPL Document "Distance Field Manipulation of Surface Models") and further in view of Gillick *et al.* (U.S. Patent No. 5,530,455). In response, Applicant respectfully submits that this rejection should be withdrawn.

In particular, the cited art fails to disclose the newly added fifth and sixth elements of amended independent claim 26, to wit:

"means for reformatting each slice of the 3D volume data comprising the voxels that define the defined surface, such that the defined surface is moved to a common row of the slice;

means for reformatting each slice of the 3D volume data comprising the voxels that are outside the defined surface, such that the respective voxel distances from the moved defined surface after reformatting remain the same as the respective voxel distances from the defined surface prior to reformatting;"

Therefore, claim 26 should be allowed. Amended independent claim 21 has also been amended so as to now include language that corresponds to the language of claim 26 quoted hereinabove; therefore, claim 21 should also be allowed.

Applicant contends that not all the elements of amended independent claims 21 and 26 are taught or suggested by Gering in view of Payne *et al.* in view of Gillick *et al.* Accordingly, Applicant respectfully submits that amended independent claims 21 and 26 are patentable over the combination of Gering and Payne *et al.* and Gillick *et al.*
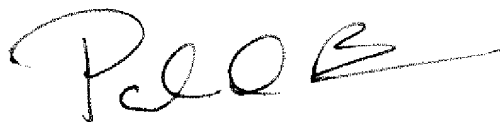
Applicant submits that rejected claim 15 depends from independent claim 26. As previously explained, Applicant contends that amended independent claim 26 is patentable over the combination of Gering, Payne *et al.* and Gillick *et al.* Therefore, based on at least its dependency, Applicant submits that dependent claim 15 is patentable as well at least for the same reasons.

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Conclusion

In light of the foregoing, this application is now in condition for allowance and early passage of this case is respectfully requested. If any questions remain regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

No fee is believed due. However, please charge any additional fees (or credit any overpayment of fees) to the Deposit Account of the undersigned, Account No. 500601 (Docket No. 7390-X04-030).

Respectfully submitted,

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